

CLAIMS

What is claimed is:

1. A microelectronic substrate comprising:
 - a body having a first surface that includes a microelectronic component mounting site configured to receive a microelectronic component, a second surface separated from the first surface by a thickness, and an opening extending through at least a portion of the thickness and being outwardly open at one or both of the first and second surfaces, the opening having a first portion having a first transverse dimension and a second portion having a larger second transverse dimension;
 - a thermally conductive member, which has a thermal conductivity greater than a thermal conductivity of the body, received at least in part in the opening in the body, the thermally conductive member having a first thickness received in the first portion of the opening and a second thickness received in the second portion of the opening, wherein a transverse dimension of the second thickness is greater than the first transverse opening dimension.
2. The microelectronic substrate of claim 1 further comprising a microelectronic component mounted on the mounting site and electrically coupled to the substrate.
3. The microelectronic substrate of claim 1 wherein the body includes a patterned electrically conductive layer between the first and second surfaces.
4. The microelectronic substrate of claim 1 wherein the body includes a patterned electrically conductive layer between the first and second surfaces and the electrically conductive layer is thermally coupled to the thermally conductive member.

5. The microelectronic substrate of claim 1 wherein the body opening includes a third portion having a third transverse dimension, the second transverse dimension being larger than the third transverse dimension and defining a transversely extending recess between the first and third portions.
6. The microelectronic substrate of claim 5 wherein the second thickness of the thermally conductive member is received in the transversely extending recess.
7. The microelectronic substrate of claim 1 wherein the second thickness of the thermally conductive member comprises a radially extending flange.
8. The microelectronic substrate of claim 1 wherein the second thickness of the thermally conductive member comprises a radially extending flange that extends about a periphery of the thermally conductive member.
9. The microelectronic substrate of claim 1 wherein the thermally conductive member further comprises a third thickness and the second thickness is disposed between the first and third thicknesses.
10. The microelectronic substrate of claim 1 wherein the first and second thickness of the thermally conductive member are integrally formed.
11. A multi-layer printed circuit board comprising:
 - a first body layer having a first opening therethrough;
 - a second body layer juxtaposed with the first body layer and having a second opening therethrough, the second opening extending outwardly beyond a periphery of the first opening to define an attachment surface on the first body layer;
 - an electrically conductive layer disposed between the first and second body layers;

- and a thermally conductive slug received in and extending between the first and second openings and thermally coupled to the electrically conductive layer, the slug including a transversely extending flange that is attached to the attachment surface.
12. The printed circuit board of claim 11 wherein the flange of the slug is attached to the attachment surface by a thermally conductive cementitious material.
13. The printed circuit board of claim 11 wherein the slug is electrically coupled to the electrically conductive layer.
14. The printed circuit board of claim 11 wherein the flange of the slug is attached to the attachment surface by an electrically conductive cementitious material that also electrically couples the slug to the electrically conductive layer.
15. The printed circuit board of claim 11 further comprising a third body layer juxtaposed with the second body layer and spaced from the first body layer, the third body layer having a third opening therethrough that is smaller than the second opening, wherein the flange of the slug is received between the first and third body layers.
16. A method of assembling a microelectronic substrate